

# Open a File and Plot a Variable

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**Goal:** Learn how to simply open a netCDF data file, list and extract a variable, and plot a variable using the boxfill, isofill, and isoline graphics methods.

Before running the tutorial below, type "*python*" or "*cdat*" at the command line.Â You will see the python prompt appear (i.e., ">>>"). You can now enter the command lines below.

You can [view](#)Â or [download](#)Â the full source code.Â To run the source code at the command line, type: "*python open\_and\_plot.py*".

```
# Import modules:  
# cdms - Climate Data Management system accesses gridded data.  
# vcs - Visualization and control System 1D and 2D plotting routines.  
# os - Operation System routines for Mac, DOS, NT, or Posix depending on the  
#       system you're on.  
# sys - This module provides access to some objects used or maintained by the  
#       interpreter and to functions that interact strongly with the interpreter.  
import cdms, vcs, os, sys  
  
# Open data file:  
filepath = os.path.join(sys.prefix, 'sample_data/clt.nc')  
cdmsfile = cdms.open( filepath )  
cdmsfile.listvariables()  
data = cdmsfile('clt')  
  
# Initial VCS:  
v = vcs.init()  
  
# Plot data using the default boxfill graphics method:  
v.plot( data )  
  
# Plot data using the isofill graphics method:  
v.clear()  
v.isofill( data )  
  
# Plot data using the isoline graphics method:  
v.clear()  
v.isoline( data )  
  
# Plot data using the boxfill graphics method:  
v.clear()  
v.boxfill( data )  
  
# Plot a simple overlay plot using the isofill and isoline graphics methods:  
v.clear()  
v.isofill( data )  
v.isoline( data )
```

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